

**THE
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SOCIETY
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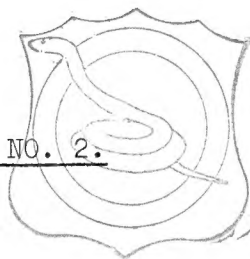
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COVER - Common Brown Snake (*Pseudonaja textilis* t.)
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On the occurrence of the skink *Egernia saxatilis intermedia* Cogger in the Blue Mountains west of Sydney, N.S.W. with additional notes on its Behaviour in Captivity.

- R. WELLS

Egernia saxatilis intermedia has been reported to occur in coastal alpine areas, from the Wollongong region of N.S.W. to Victoria (1). Accordingly the following distributional data will compliment this generalisation of its range.

Localities: Mt. Victoria, Jenolan Caves and
Wentworth Falls, N.S.W.

DESCRIPTIONS

A) Mt. Victoria Specimens.

Three adult specimens were discovered in a crevice along a small sandstone ridge in an area of dry sclerophyll forest. Date 6.1.70.

Two of these were in a gravid condition when found and were moderately aggressive during handling; the third specimen had approximately 70% of its tail missing, and was infested with a species of parasite (possibly *Acomatacarus*). Several clusters of this very small mite were removed from the lizards auricular regions.

Colouration: The gravid specimens were nutmeg brown dorsally (same laterally) with indistinct white dots and orange ventrally. The third specimen was black dorsally and orange ventrally; its general physical appearance was more robust than the others although it was of a similar growth stage.

Measurements:

- | | | | | | | |
|------|----------|----------|---------|---------|---------|---------|
| 1) ♀ | SV-115mm | VT-140mm | TT-18mm | TS-27mm | EE-12mm | ES-15mm |
| 2) ♀ | SV-135mm | VT-140mm | TT-18mm | TS-27mm | EE-12mm | ES-13mm |
| 3) ♂ | SV-125mm | VT-45mm | TT-18mm | TS-29mm | EE-13mm | ES-15mm |

The latter had approximately 70% of its tail missing.

B) Jenolan Caves Specimens.

Seven adult specimens were located in crevices along a sandstone ridge by Mr. R. Sadlier on the 10th January, 1970. All were infested with the same species of mites found on the Mt. Victoria specimens, these being removed from the auricular regions, along the fore and hind limbs and in the limb-pits.

Three specimens had partly regenerated tails, one had an incomplete tail (tip missing) and one was gravid.

Colouration: Marked as with gravid Mt. Victoria specimens but more brightly coloured.

Measurements:

1) ♀	SV-119mm	VT-116mm	TT-18mm	TS-27mm	EE-13mm	ES-14mm
2)	SV-95mm	VT-135mm	TT-17mm	TS-23mm	EE-13mm	ES-14mm
3)	SV-95mm	VT-116mm	TT-14mm	TS-20mm	EE-12mm	ES-13mm
4)	SV-108mm	VT-102mm	TT-17mm	TS-23mm	EE-13mm	ES-14mm
5)	SV-108mm	VT-122mm	TT-17mm	TS-23mm	EE-12mm	ES-13mm
6)	SV-95mm	VT-135mm	TT-14mm	TS-23mm	EE-13mm	ES-14mm
7)	SV-102mm	VT-128mm	TT-17mm	TS-23mm	EE-13mm	ES-14mm

- 1) Gravid - ♀ - tail incomplete (tip missing)
- 4) Tip of tail regenerated
- 5) 52mm of tail regenerated
- 7) 27mm of tail regenerated

C) Wentworth Falls Specimen (2)

An adult was received as a preserved specimen on the 23rd November, 1968. The specimen (now catalogued R-7/100) bears a label - "Collected Wentworth Falls, N.S.W. 1967" and has a small perforated wound 7mm in diameter dorso-laterally. As a lead air-gun pellet was removed from the body cavity, this was assumed the cause of death. The specimen measured 200mm in overall length and its colouration was dark brown dorsally and laterally, with a white ventral surface.

OBSERVATIONS IN CAPTIVITY

The specimens were housed in an outdoor enclosure, measuring 5.5m x 3.5m x 1.5 (height). It was landscaped with grasses, shrubs, hollow logs, a large cement pond and a pile of sandstone slabs stacked in such a way as to suggest exfoliation. It was amongst these rocks that the specimens established themselves. While in captivity they exhibited the usual egeranian tendency to become shy and secretive soon after collecting, but after a fortnight the lizards partially adapted to my daily inspections of the enclosure - I found that a crucial flight distance of 3 metres was constant throughout the period of confinement. This was violated by one individual, a gravid female from Mt. Victoria, which would scuttle the entire length of the enclosure to feed on banana regardless of my presence. It was also the only specimen to consume banana - the others taking grasshoppers to 30mm in length.

An adult specimen (Mt. Vic. No.3) was observed sloughing during the 9th January, 1970. The skin was discarded in large sections and after sloughing its colouration was only slightly brighter than when collected.

One of the gravid specimens from Mt. Victoria, deposited its young in the enclosure around the 25th January, 1970 - however, only one was observed (approx. 50mm) the others (if any) could not be found after an extensive search. As the only one observed, was sunning amongst lantana outside the enclosure, it was assumed they had escaped. After two months the specimens were released in their appropriate localities.

References:

- (1) Reptiles of Australia - E. Worrell.
Page: 43.
- (2) "Preserved Reptiles" - R. Wells collection.
Sp. No. R-7/100 (Section 7).

THE FEEDING OF SNAKES IN CAPTIVITY

By DOUG ADAMS

PART II

The way to start snakes eating meat is to put a mouse, frog or lizard into the end of a strip of meat to provide the correct scent. The animal you use as the lure need not be large. A garden skink or a small frog will be quite satisfactory when trying to feed a large venomous snake in this manner. There is a lot of room for experiment with this method of feeding. I have found that it is not necessary to actually fasten the lure to the meat. A small frog, for instance, can be placed on the meat, and after the snake finishes eating the frog, he proceeds to eat the meat; sufficient scent apparently having been transferred to make the meat acceptable.

Another successful method of mine is to make a hole with a knife through one end of the strip of meat, and then place a freshly killed garden skink through this hole so that the head protrudes at one side and the tail at the other. For snakes that don't normally eat lizards or frogs (e.g. some Pythons), a freshly killed mouse could be used as the lure, being tied onto the strip of meat with string. After a time in captivity, some snakes may eat strips of meat which are not especially prepared by the above methods, e.g. Tiger Snakes, Swamp Snakes (Signata).

A greater degree of success in feeding "unscented" meat is achieved by introducing the end of the strip of meat into the snakes mouth. This is relatively simple and is achieved by holding the snake behind the head with one hand, and with the other gently pushing the end of the meat between the jaws. The snake is usually quite happy to fasten onto the meat, and it will be up to you to experiment as to whether you should immediately release your hold on the snake, or continue holding gently until the snake has swallowed a portion of the meat. This method is best used while the snake is lying on a flat surface rather than being held. The idea being to disturb the snake as little as possible.

The last mentioned method of feeding can also be used to give a snake his normal food, when he refuses to seize the prey himself. Push the head of the food-animal between the jaws of the snake, and more often than not he will get the idea and swallow the food.

The above methods of feeding are as far as I consider a snake keeper should go in trying to get snakes to eat. There is a barbarous practice called force-feeding whereby the food-animal is forced down the snake's throat with the aid of a stick, and then massaged along till it reaches the stomach. One reason not to use this method is that such violence may injure the snake and even cause its death. However, the main objection to force-feeding is that it achieves nothing. In every case where I have heard of non-eating snakes being force-fed, I have noted that the snakes have not afterwards begun to feed by themselves. A snake which does not eat is clearly being kept under conditions which are not suitable for that particular species. Thus force-feeding solves no problems and should not be tried. The non-eating snake should be returned to the wild, in an area where the same species is known to occur.

There now follows a list of some of the species I have had in my collection together with a few of their eating habits. If you examine the list you will know where to start when you set about feeding any of the snakes mentioned.

<u>Species of Snake</u>	<u>Food</u>	<u>Favoured Time of Feeding.</u>
Diamond Python (M.S. Spilotes)	Mammals & Birds	1. After dark 2. In daylight
Whip Snake (D. Psammophis)	Skinks	In daylight
Swamp Snake (D. Signata)	Frogs & Skinks	In daylight
Black Snake (P. Porphyriacus)	Frogs, Skinks & Mice	In daylight
Copperhead (A. Superba)	Frogs, Skinks & Mice	In daylight

Brown Snake (P.T. Textiles)	Skinks & Mice	In daylight
Tiger Snake (N.S. Scutatus)	Mice, Birds, Skinks & Frogs	1. In daylight 2. After dark
Death Adder (A.A. Antarcticus)	Mice, Birds & Skinks	Anytime
Small-eyed Snake (C. Nigrescens)	Skinks & Geckos	After dark
Masters' Snake (D. Mastersii)	Skinks	In daylight
Broad-headed Snake (H. Bungaroides)	Skinks, Geckos & Mice	After dark

When collecting snakes you should be able to get an idea from the capture area as to what food they've been eating. Some clues can be obtained from the first dropping the snake passes after capture. It may contain feathers, fur or the scales of lizards. When in doubt about food, try giving skinks (notice how often they occur in the preceding list).

Every snake cage should be provided with a dish of water. Snakes do drink. They submerge their snouts and then work the jaws to suck the water up. They may not drink very often though, so don't leave the water dish out just because you've never seen them drink. Though, to complete the picture, it must be said that snakes obtain most of their water from the food they eat. Very little water is wasted by the snakes, so therefore only a small amount of water is required in the first place. Certain snakes under certain conditions may not have to drink at all. But leave this up to the snake, don't decide for him.

Readers requiring further information may contact the writer at Society meetings.

Comment is invited on any of all aspects of this article; especially in the form of further articles of the Society Journal. Of special interest would be records of snakes eating insects, snakes eating underwater, etc.....

SNAKES AND LADDERS

OBSERVATION

By Kevin Jacobson.

As a matter of interest I found that the Green Tree Frog shows great immunity to a Brown Snake's venom. A one and a half inch frog in my collection (*Hyla caerulea*) was bitten six times over a period of two weeks (by a 13 inch snake), but showed absolutely no ill effects. It was bitten twice just behind the tympanum and the skin was punctured. Immediately after being bitten the frog hopped into the water dish and sat there for a few minutes (on a rock so that only the lower portion of the body was submerged) and then carried on its activities as though nothing had happened.

* * * * *

THE FATE OF THE SHINGLEBACKS

By Stephen Groom.

Whilst travelling between Stawell and Halls Gap in December late last year I was perturbed by the number of dead Shinglebacks and the occasional Bearded Dragon. Along one small section of the road I counted numerous dead Shinglebacks; so many that it became monotonous.

This happening year after year, together with the large numbers "drained" from areas for sale in Melbourne Pet Shops, must certainly have a drastic effect on the lizard population in these areas.

I think the reason many are killed on the roads is because of the ignorant public, some of whom no doubt deliberately run them over. We have road signs warning motorists of Kangaroos, Koalas and Lyrebirds, why not some for lizards too?

On the other side of it, surely laws could be introduced preventing suppliers from catching them in such large numbers. What do you think?

OBSERVATIONS ON BIRTH OF BLUETONGUES

By G. Swan

On the 14th March, 1972 a Common Bluetongue which has been in my possession for four years dropped 17 young. This is the third consecutive year on which this reptile has given birth. Previous dates and numbers were:- 7th February, 1970 (7), 21st February, 1971 (15).

- 1) Born 2.20 p.m. simultaneously
- 2)
- 3)
- 4) Born 2.30 p.m. simultaneously
- 5) Born 2.31 p.m.
- 6) Born 2.32 p.m.
- 7) Born 2.35 p.m.
- 8) Born 2.45 p.m.
- 9) Born 2.46 p.m.
- 10) Born 2.50 p.m.
- 11)
- 12) Born 2.55 p.m. simultaneously
- 13) Born 3.02 p.m.
- 14) Born 3.40 p.m.
- 15) Born 4.20 p.m.
- 16) Born 4.50 p.m.
- 17) Born 5.35 p.m.

All the young appeared head first with the exception of numbers 8, 9, 10, 14, 15 and 17 which were still curled in the embryonic position.

These 6 young were still enclosed in a membranous sac when born. All of the young immediately attempted to eat their attached yolk sac although several of the "runts" were unsuccessful.

The mother showed no interest in the young during or after birth and displayed no discomfort except during the birth of the six young mentioned above.

FIELD KEYS TO THE FROGS AND REPTILES OF
THE CENTRAL COAST OF NEW SOUTH WALES

By Harold Cogger

PART I

(Frogs and Tortoises)

The herpetofauna of the area immediately surrounding Sydney is a very rich one. However, despite the fact that it has been sampled and studied since the first Australian settlement was established at Port Jackson in 1788, the biology and distribution of all but a few conspicuous forms are still poorly known.

The following keys have been devised to assist in identifying specimens of reptiles and frogs in the field. They are based, wherever practicable, on characters readily discernible in living specimens; strong emphasis is placed on life colours, many of which are lost or changed by preservation.

Only by accurate identification and the detailed recording of distribution, habitat, abundance, etc can we hope to build up a picture of Sydney's frog and reptile populations which will provide us with the knowledge needed to formulate proper measures for their conservation and protection.

In this article the term "Central Coast of N.S.W." includes the area bounded by the Shoalhaven River in the south, the Hunter River in the north, and the eastern escarpment of the Great Dividing Range in the west. Marine reptiles are excluded.

KEY TO THE TORTOISES

Gular shields of plastron in contact in front of the intergular shield..... Chelodina longicollis (Eastern Snake-necked Tortoise).

Gular shields of plastron completely separated by the intergular shield..... Emydura signata (Eastern Short-necked Tortoise).

I. KEY TO THE FROGS

1. Fingers and toes either with conspicuous terminal discs or, if discs are very small, a distinct notch between each disc and the remainder of the digit when viewed from the side (*Hylidae*: Tree Frogs).....2
- Fingers and toes pointed, without discs or, if small discs are present, no notch between each disc and the remainder of the digit (*Leptodactylidae*: Southern Frogs).....18
2. Fingers with conspicuous webbing.....3
- Fingers with at most a trace of webbing.....7
3. Groin and hind side of thighs without conspicuous black and yellow marbling.....4
- Groin and hind side of thighs with conspicuous black and yellow marbling
.....*Litoria peronii* (Peron's Tree Frog)
4. Dorsum normally bright green in life, always lacking a broad darker dorsal patch from snout to cloaca.....5
- Dorsum brown or olive in life, with a broad darker dorsal patch from snout to cloaca.....*Litoria dentata* (Keferstein's Tree Frog)
5. Webbing reaching or nearly reaching the disc of the fourth finger.....6
- Webbing reaching no further than the base of the penultimate phalanx of the fourth finger.....*Litoria caerulea* (Green Tree Frog)
6. Green colour on forearm extends just beyond elbow to merge with colour of upperarm; skin covering tympanum smooth; rim of lower jaw not edged with white.....*Litoria chloris* (North Coast Green Tree Frog)
- Green colour of forearm stops abruptly, with a sharp edge, at the elbow; skin covering tympanum finely granular; rim of lower jaw, especially anteriorly, narrowly edged with white.....*Litoria gracilentia* (Dainty Green Tree Frog)
7. First finger noticeably shorter than the second.....8
- First and second fingers more or less equal.....14
8. Hind side of thighs not orange or reddish.....9
- Hind side of thighs orange or reddish.....10

9. A distinct cream or yellow dorso-lateral skin fold; hind side of thighs bluish.....Litoria aurea (Green and Golden Bell Frog).
No dorso-lateral skin fold; hind side of thighs light olive-green with dark brown flecks.....Litoria brevipalmatus (Green-thighed Frog)
10. Vomerine teeth present; a dark stripe from the eye and over the tympanum to the base of the forearm.....11
Vomerine teeth absent; no dark stripe over the tympanum to the forearm
.....Litoria fallax (Dwarf Tree Frog)
11. Hind edge of vomerine teeth behind the choanae; no broad, darker mid-dorsal patch.....12
Hind edge of vomerine teeth between the choanae; a broad, darker mid-dorsal patch extending back from a line between the eyes.....13
12. A white stripe along at least the hind edge of the upper jaw
.....Litoria citropa (Blue Mountains Tree Frog)
No light stripe along the edge of the upper jaw
.....Litoria phyllochroa (Leaf Green Tree Frog)
13. Mid-dorsal patch normally divided along at least part of its length; finger discs scarcely wider than fingers; flanks and groin with conspicuous black spots or blotches.....Litoria verreauxii (Verreaux's Tree Frog)
Mid-dorsal patch normally undivided; finger discs noticeably wider than fingers; flanks and groin without conspicuous black spots or blotches
.....Litoria jervisiensis (Jervis Bay Tree Frog)
14. Webbing extending no more than half way along penultimate phalanx of fifth toe; a conspicuous posterior head stripe.....15
Webbing reaches the disc of the fifth toe; posterior head stripe inconspicuous or absent.....Litoria booroolongensis (Booroolong Frog)
15. Posterior head stripe about as wide as and enclosing the tympanum; anterior head stripe at least partly interrupted by a light vertical bar in front of the eye.....16
Posterior head stripe narrow, no more than half as wide as and not enclosing the tympanum; anterior head stripe not interrupted by a vertical bar in front of the eye.....Litoria lesueurii (Lesueur's Frog)

16. Dorsal surface with prominent warts and/or ridges of skin; outer metacarpal tubercle distinctly notched or divided.....17
- Dorsal surface smooth or with at most a few low, scattered warts; outer metacarpal tubercle smoothly oval, without a notch or division
.....Litoria latopalmata (Gunther's Frog)
17. Back usually with longitudinal folds of skin; dorsal pattern longitudinally aligned, continuous from back to tip of snout.....Litoria nasuta (Rocket Frog)
- Back usually with numerous conspicuous tubercles and short skin folds; dorsal pattern consisting of a series of dark blotches or patches, one of which has an anterior edge forming a straight line between the eyes
.....Litoria freycineti (Freycinet's Frog)
18. At least some conspicuous red or orange in the groin.....19
- No red or orange in the groin.....21
19. No obvious parotid glands.....20
- A conspicuous parotid gland on each side of the head
.....Uperolia marmorata (Yellow-spotted Toadlet)
20. Belly smooth, boldly marbled with black and white (females) or black with white spots (males).....Adelotus brevis (Tusked Frog)
- Belly slightly granular, dull brown with lighter spots
.....Crinia haswelli (Haswell's Froglet)
21. Belly mottled with black and white (and sometimes grey).....22
- Belly uniformly cream or white.....25
22. Belly smooth.....23
- Belly granular.....Crinia signifera (Common Froglet)
23. Head without a reddish patch; red, if present, continuous with the colour of the back.....24
- A triangular-shaped yellow, orange or red patch on the head contrasting sharply with the colour of the back
.....Pseudophryne australis (Red-crowned Toadlet)

24. Body red above, contrasting sharply with the black sides
Pseudophryne coriacea (Keferstein's Toadlet)
 Body dark grey, black or dark brown above, continuous with the same colour
 on the sides.....Pseudophryne bibronii (Brown Toadlet)
25. Webbing of toes penetrating deep between the outer metatarsals.....26
 Webbing of toes not penetrating between the outer metatarsals.....27
26. Dark cross-bands on limbs well-defined, widening behind to form dark
 triangles visible from below; some conspicuous black spots or blotches on
 the sides.....Mixophyes fasciolatus (Lowland Great Barred Frog)
 Dark cross-bands on limbs poorly-defined, not forming dark triangles
 visible from below; no conspicuous black spots or blotches on the sides
Mixophyes balbus (Mountain Great Barred Frog)
27. Fingers without a trace of webbing; digits without terminal discs.....28
 Fingers with distinct basal webbing; digits with small terminal discs
Lechriodus fletcheri (Fletcher's Frog)
28. Vomerine teeth behind the choanae.....29
 Vomerine teeth between the choanae
Heleoporus australiacus (Giant Burrowing Frog)
29. Inner metatarsal tubercle large, shovel-shaped.....30
 Inner metatarsal tubercle small, oval, not shovel-shaped.....31
30. A large tibial gland.....Limnodynastes dorsalis (Banjo Frog)
 No tibial gland.....Limnodynastes ornatus (Ornate Burrowing Frog)
31. Dorsal pattern consists mainly of a series of irregular blotches, often with
 a single light vertebral stripe; metacarpal of inner finger equal to or
 slightly longer or shorter than that of the second finger
Limnodynastes tasmaniensis (Spotted Marsh Frog)
 Dorsal pattern consists mainly of a series of longitudinal stripes;
 metacarpal of inner finger much longer than that of second finger
Limnodynastes peronii (Striped Marsh Frog)

NOTES ON THE SWAMP SNAKE (DREPANODONTIS SIGNATA)

IN CAPTIVITY

By P.R. Rankin

The specimen concerned was caught at Morriset N.S.W. on the 16th May, 1970 beneath a slab of rock and measured 19.25 inches overall.

It was released on the 21st April, 1971 and measured 20 inches overall at this time. The colour phase dorsally was brown (as opposed to black).

Feeding and Sloughing:

Food items consumed were frogs - Crinia signifera and Limnodynastes peroni, grass skinks, tadpoles and on one occasion its cagemate - another swamp snake 14 inches long. It never ate fish, baby mice, or lizards larger than grass skinks, although all of these were offered at various times.

The tadpoles were always taken below water, i.e. in the water bowl, and the snake seemed to enjoy getting right under the water and swimming after them.

Summary of dates of Feeding and Sloughing:

10th August, 1970	-	1 frog eaten
22nd August, 1970	-	3 frogs eaten
15th September, 1970	-	grass skink eaten
20th September, 1970	-	1 frog eaten
26th September, 1970	-	1 frog eaten
3rd October, 1970	-	1 frog eaten
<u>18th October, 1970 - sloughed</u>		
21st October, 1970	-	1 tadpole eaten
23rd October, 1970	-	1 tadpole eaten
24th October, 1970	-	2 tadpoles eaten
26th October, 1970	-	1 grass skink eaten
1st November, 1970	-	1 frog eaten

27th November, 1970 - sloughed

1st December, 1970	-	2 tadpoles eaten
6th December, 1970	-	1 frog eaten
10th December, 1970	-	1 frog eaten
18th December, 1970	-	1 frog eaten
27th December, 1970	-	1 frog eaten
20th February, 1971	-	1 frog eaten
26th February, 1971	-	1 frog eaten
3rd March, 1971	-	2 tadpoles eaten
10th March, 1971	-	1 tadpole eaten
15th March, 1971	-	1 frog eaten
22nd March, 1971	-	1 frog eaten

13th April, 1971 - sloughed

14th April, 1971	-	ate 14inch Swamp Snake
21st April, 1971	-	released

The meal on the 10th August, 1970 was the first meal which the snake had in captivity. The gap in feeding from the 27th December, 1970 to 20th February, 1971 was through no weather factor etc., it was because I was committed in other directions and temporarily could not feed the snake. Note in the table the discrepancies between sloughing dates and dates of last previous meal.

Activity:

On warm nights it was seen to be active until about 8.30 p.m. and was active even when the cage was shaded - during the afternoon. (The Whip Snakes in an adjoining cage would crawl under cover when the sun left their cage).

In the water bowl I had a clump of water hyacinth, and the snake spent much time crawling through and under this. If disturbed in so doing, it would often retract its head and body below water, and stay thus for quite a while.

Record of Bite

This particular Swamp Snake never settled down properly - even towards the end of its captive term, and I always had to be careful not to be bitten. I don't know whether other individuals do settle down, because I have never kept one longer than this specimen.

At 5.06 p.m. on 2nd April, 1971 I was bitten on my right apex finger on the end joint, by this specimen.

Since I had a snake in the other hand, I couldn't pull the aggressor away quickly, and venom was injected for about 15-20 seconds. It chewed in the manner of a Brown Snake.

Apart from slight shock which I received, here is the case history of the bite.

Three minutes after being bitten, the apex and index finger started stinging rather intensely. This subsided about 15 minutes later, but it still hurt to be touched on either finger. The joints of both apex and index finger became swollen, and stiffened. Twenty minutes after being bitten I had a feeling of nausea, this stopping 10 minutes later. Thirty-five minutes after the bite, all pain was gone, and two hours after the bite red blotches appeared near the site of the bite. My hand remained puffy and swollen until about 20 hours after the bite.

I was aged 15 at the time of the bite, and no medical attention was needed - the only treatment being my sucking of the bite soon after being bitten.

LETTERS TO THE EDITOR

I read with interest the article by D. Adams on feeding snakes, in the May Herpetofauna, and would like to make a few comments.

The author mentions that insects are eaten. I would be most interested to know if he or any other reader has had experience with insect-eating snakes other than Typhlops. Although the literature often states that small snakes eat insects, I have never been able to encourage any to do so.

The idea of feeding snakes always on a particular night is good, however, it is often not very successful, especially when the snakes are kept outside. Often, conditions are not acceptable to the snake, and it will not feed. I find it easiest to check the animals activity, and feed when the snake shows typical hunger signs, such as searching around the cage. However, some snakes can be fed regularly, as Adams suggests.

Giving maximum size food-animals is unwise. The larger the animal, the more danger to the snake when feeding, and especially during digestion when protruding bones can pierce the stretched skin. Large frogs have been known to kick when inside more delicate snakes such as Green Trees, and injure them internally, leading to death. Danger is also increased if these larger food items are fed live. Also, food-animals which are extremely small should be avoided, as these can be difficult for a large snake to swallow, or grip.

It is always wisest to feed snakes on dead food items. The most obvious advantage is lack of possible injury to the snake. There are many records of snake death due to injuries caused by the food. Even if the snake is not killed, disfigurement of an otherwise perfect specimen is possible. Less energy is wasted if the food is dead, and it can usually be seen in a couple of minutes if the snake will feed. Also, if another snake is in the same cage, more select feeding of individuals is possible.

Dead food can be offered on the end of a wire, and jiggled to simulate life if necessary. Frogs usually have to be fed live. If not taken, dead rodents and birds can be frozen for use another day. They should always be thawed out completely before use, of course. Some snakes, as Adams mentions, will not feed on dead food, and others require some time before they will accept it. However, most can be encouraged to do so after a while, and it is a preferable method of feeding.

I hope this information is of use.

Andrew Haffenden,
51 Grosvenor Street,
BALACLAVA. VIC. 3183.

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I was wondering if you could ask at meetings for anyone who finds any information on reptile diseases or nutrition to contact me. I intend to spend many years in the future collecting and sorting such information, and so anybody who has had any sick, diseased animals, I would love to hear from them. Particularly information on nutritional requirements of reptiles, nutritional or vitamin deficiencies and diseases of unexplained origin. Also, anything ranging from colony epidemics to the loss of one lizard. Even just information on feeding methods, food used, housing and hygiene in a healthy colony would be appreciated. Any reports of disease resulted in death or not, whether other lizards caught it, how many lizards out of all those that could contact the disease were affected or died, how long the disease took to develop, and any post-mortem details if these were carried out: in fact, any factor you consider may be relevant.

If there are symptoms, state whether these are mouth and tongue growths and ulcers (stomatitis), difficulty in breathing with wheezing sounds and gasping (pneumonia), swelling of the eye area (stomatitis), twitching and convulsing, bleeding in skin etc. (septicaemia), limb paralysis, loss of claws, lethargy (SCUD of turtles), diarrhoea, septicaemia, weight loss, listlessness (salmonellosis), dermatitis (fungal infection), nephritis (leptospirosis), lifting of scales of tortoise shells

(excess algal growth), and abscesses. Even folklore would be appreciated, and especially any treatment carried out and its success. Any samples sent should be made in preservative (i.e. 10% formol-saline, available from chemist) and for large reptiles, pieces of the various organs should be sent in formalin (i.e. the head if it has stomatitis). If you wish me to make cultures to identify any bacteria which may be present, the specimen must be fresh, or frozen, or preferably still alive so samples can be taken. As I am also interested in reptile parasites, I would appreciate details of any worms, etc people have found, preferably with the worms, or the gut tract containing the worms, sent in formalin. If you wish me to identify worm eggs in the faeces, you must seal the faeces in an airtight (and post-tight) jar, but don't add anything except a few drops of water if necessary to keep them moist.

I hope by the end of my life to have quite a collection about reptile health, disease prevention and control, and treatment. Parasites are very common causes of wasting in many zoo reptiles in Australia. Remember to handle sick reptiles with care, as you may be able to catch the disease yourself. Any person with information, or even if only interested, could contact me at my home address:-

504 High Street Road,
MT. WAVERLEY. VIC. 3149
Phone: 232-4929.

or at my Uni. address:-

Room D104,
St. Hilda's College,
PARKVILLE. VIC. 3052.
Students' Phone.

Specimens should preferably be sent to my Uni. address, where I can give them immediate attention. Please label specimens "Reptile Specimens" so the post will handle them carefully. I will reply to anybody interested enough to write.

Julie Tilbrook.

THE EUROPEAN POND TORTOISE - EMTS ORBICULARIS
(Linnaeus, 1758).

By A.J. ZWINENBERG

PART I

Introduction:

Of the current 211 species forming the order of Testudines only 11 belong to the European Fauna Area, i.e. 4 Pond Tortoises (family Emydidae), 4 Land Tortoises (family Testudinidae), 4 Marine Turtles (family Cheloniidae) and 1 Leatherback (family Dermochelyidae).

The European Pond Tortoise, *Emys orbicularis*, belongs to the family Emydidae which comprises of 77 species. As with the other 11 families of Testudines, most species are found in the tropical and sub-tropical parts of the world. The closer to the polar zones the fewer the number of species. Only a comparatively few species have been able to maintain themselves in the temperate zones, the European Pond Tortoise being one of them.

Distribution:

After the last Ice Age (approximately 15,000 years ago), the Pond Tortoise was able to increase its, up to that time, declining numbers, and repopulate the whole of Europe, including Sweden and Norway. However, climatical changes and increasing settlement by man reduced its range again. It gradually disappeared from Scandinavia and it is also no longer found in large parts of Middle Europe. As the Pond Tortoise is timid and secretive in habits, the borders of its range are not precisely known. In the west it is found in Spain and the south of France. Further north such as in Northern France and in Belgium it is becoming increasingly rare; the extension of its range into the Netherlands is doubtful. Its eastern distribution border is in Western Asia, while the Mediterranean Sea forms its southern borders. North-West Africa is also colonised.

Description:

Representatives of the family Emydidae can be identified by the slight flattening of the front legs towards the sides, which in cross-section therefore, appear oval shaped and free-standing fingers and toes, which are usually webbed.

Emys orbicularis reaches a shell length of 20 to 25cm for northern specimens and around 35cm for southern specimens. The carapace appears flat when seen from the side; in juvenile specimens it is almost a perfect circle whilst in adults it is oval shaped. The plastron has two hinge joints which allow movement and almost complete closure of the front. In males the plastron is slightly concave. Other differences between males and females are the much shorter tail in females; a yellowish iris in females and whitish iris in males. The carapace is usually blackish or brown with yellow coloured stripes and dots. The plastron is yellowish with irregular brown spots. The head is black or dark brown and covered with a great many yellow dots. The tail and limbs are black with yellow spots as well. There is no colour difference between the sexes.

Habitat:

The Pond Tortoise is most at home in slow flowing or stagnant shallow water, especially if this is combined with lush plant growth, as this affords this very wary animal the maximum cover.

It enjoys sunning itself at the waters edge but will return to the water immediately at the slightest disturbance. At any time it is never far from water and it is a very good swimmer and diver. Even on land it is not at all helpless: when danger threatens it runs at a, for a tortoise, unbelievable pace in the direction of the water and will dive in with a splash. Swimming is done by kicking motions. The Pond Tortoise can stay underwater for a very long time, due to the mouth membrane which is very rich in blood and accordingly can extract oxygen from the water. The anal pockets which are connected to the final intestine have a similar function.

As with all cold-blooded animals in the temperate zones the Pond Tortoise hibernates. Although it can withstand fairly low temperatures it will commence hibernation at a temperature of 8 - 5⁰ celsius. The hibernation period lasts until mid-April. The length of the hibernation period depends of course very heavily upon the harshness and length of the cold season.

Pond Tortoises have been found in mid-winter at muddy creek bottoms whilst the water surface was covered with a thick layer of ice. The animals were in deep hibernation and appeared to suffer no ill-effects from the low water temperature. As soon as the first rays of the Spring sun reach them they wake up and commence their search for food.

..... to be continued.

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NEW MEMBERS

Miss A. Bubenicek	31 O'Keefe Street, EAST PRESTON. VIC. 3072. Interests - General.
Mr. A. Haffenden	51 Grosvenor Street, BALACLAVA. VIC. 3183. Interests - Survey of Aust. Reptiles.
Mr. I. Hornyak	48 Clifton Road, CLOVELLY. N.S.W. 2031. Interests - Snakes.
Mr. G. Husband	21 Edward Street, GUILDFORD WEST. N.S.W. 2161. Interests - General.
Miss J. Suttor	Rear 117 Darley Road, RANDWICK. N.S.W. 2031. Interests - Carpet Pythons.
Mr. R. Waters	46 Tarrants Avenue, EASTWOOD. N.S.W. 2122. Interests - General.

Notes on Goniocephalus boydii (Macleay).

R. Wells

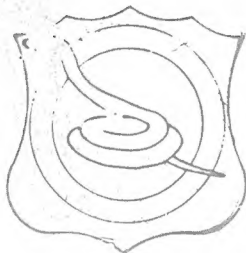
While on a recent field trip to North Queensland, I took the opportunity of visiting a sanctuary on the Atherton Tablelands near Cairns. It was here, in this combined, zoo-museum-sanctuary, that an adult Boyds' Forest Dragon had been collected a day prior to my arrival (10.11.71). The lizard, however, died on the 11.11.71. Upon inspecting the specimen, it was found to have a small laceration 2mm in length on the chest and two small puncture marks in the left forelimb armpit; blood was exuding from these wounds in small quantities. Due to the character of the wounds, it was assumed by all present that a cat had been responsible and this theory was further validated by the collector who recalled similar cat predation problems in the area. The specimen was found to be gravid, after a longitudinal slit 80mm in length was made to allow a preservative to penetrate. A total of 3 eggs were present, the largest measuring 27mm in length and 14mm in diameter - their general appearance suggested well-rounded Bearded Dragon eggs. The most posterior egg was given to Mr. D. Stammer of Mt. Isa in the hope that a successful hatching be made. However, I was later informed by Dr. Cogger of the Australian Museum, that the egg failed to develop. The following measurements were taken soon after the specimen's death:

Snout to Vent	- 175mm) overall length - 505mm.
Vent to Tail	- 330mm	

Tympanum to Tympanum	- 26mm
Tympanum to Snout	- 43mm

Status - The collector informed me that the species was often sighted in the rainforest around his home - apparently being far from rare - I was also given this impression by other people in the region. Therefore, it seems reasonable to assume that although restricted to a relatively small region, the species are not uncommon.

THE AUSTRALIAN HERPETOLOGICAL SOCIETY



This Society was formed to enable people interested in reptiles and herpetology to meet regularly together.

The aims of the Society are:-

- (1) To collect and exchange information on all aspects of Australian reptiles and amphibians.
- (2) To encourage the study of reptiles and amphibians - both in their natural state and in captivity.
- (3) To promote a sane and reasonable attitude to reptiles and amphibians among the general public.
- (4) To organise field work in all parts of Australia and to render all possible assistance to members on collecting trips away from their home territory.

Authors of articles contained in the Journal are responsible for the opinions expressed and for the accuracy of the facts in their contributions.

